

Fig. 6. Hypopygium of *Gonomyia (Leiponeura) recurvata* n. sp. Ventral aspect; *a*, pleural pieces; *b*, dorsal apical appendage; *c*, ventral apical appendage; *d*, intermediate apical appendage; *e*, dorsal gonapophyse; *f*, ventral gonapophyse; *g*, penis-guard.

Fig. 7. Hypopygium of *G. (L.) calverti* n. sp. Dorsal aspect of the pleurite.

Fig. 8. Same as last. Lateral aspect of the end of the abdomen. *a*, pleurites from the side; *b*, dorsal wall of the genital chamber; *c*, gonapophyse; *d*, ventral arms.

Fig. 9. Hypopygium of *Molophilus orion* n. sp. Ventral aspect of the ventral apical appendage.

Fig. 10. Thorax of *Rhipidia (Conorhipidia) punctipennis* n. sp. Lateral aspect showing the conspicuous dorsal protuberance.

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## DESCRIPTIONS OF GALL MIDGES.

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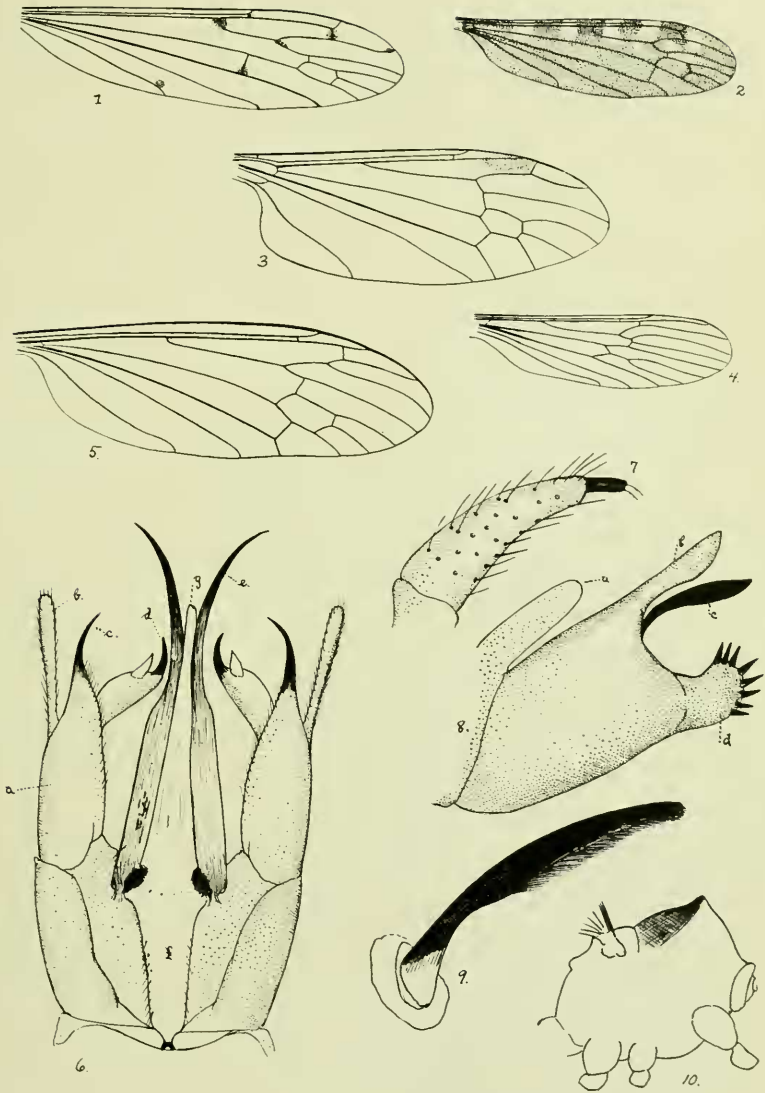
ALBANY N. Y.

The following descriptions of species are mostly based upon a remarkable collection made by Mr. C. P. Alexander in Fulton County, N. Y. Mr. Alexander succeeded in taking both sexes of the striking *Didactylomyia longimana* Felt, the female being previously unknown, and also obtained a series of the peculiar *Karschomyia viburni* Felt, the female of which had not been recognized before.

***Colpodia americana*** new species.

This species is described from a male taken by Mr. C. P. Alexander August 14, 1909, on the east shore of Woodworth's Lake in the Adirondacks, altitude 1,550 feet. This form is related to *C. trifolii* Felt. It is larger in size, differs in coloration and exhibits a marked divergence in the structure of the genitalia.

Male.—Length 1.2 mm. Antennæ more than twice the length of the body, sparsely haired, fuscous yellowish; sixteen segments, the fifth with a stem twice the length of the basal enlargement, which latter has a length one-half greater than its diameter. Palpi; first segment with a length about four times its diameter, the second as long as the first, stouter, the third a little longer than the second, the fourth one-half longer than the third, more slender. Mesonotum light brownish yellow. Scutellum and postscutellum whitish yellow. Abdomen fuscous yellowish, the apex recurved dorsally. Halteres and



Costa Rican Tipulidae.



coxæ pale yellowish, the legs light straw, except the somewhat lighter midtarsi and the nearly white posterior tarsi; claws slender, evenly curved, simple, the pulvilli shorter than the claws. Genitalia; basal clasp segment short, stout; terminal clasp segment short, the basal three-fourths greatly swollen, subglobose, the distal fourth produced as a relatively slender spur; dorsal plate long, broad, deeply and triangularly emarginate, the lobes broadly rounded and thickly setose; ventral plate long, broad, deeply and triangularly emarginate, the lobes narrowly rounded, setose. Harpes slender, heavily chitinized, simple, the distal fourth curved at nearly a right angle. Type Cecid. 1478.

**Colpodia capitata** new species.

The peculiar male was taken August 19, 1909, by Mr. C. P. Alexander at Woodworth's Lake in the Adirondacks, altitude 1,550 feet. This species is allied to *C. carolinæ* Felt, though easily separated by the longer basal enlargement of the flagellate antennal segments and the peculiar genitalia.

Male.—Length 1 mm. Antennæ probably twice the length of the body, sparsely haired, light brown, presumably sixteen segments; the fifth with a stem two and one-half times the length of the basal enlargement, which latter has a length two and one-fourth times its diameter. Palpi; first segment with a length about five times its diameter, the second as long as the first, stouter, the third a little longer than the second, more slender, the fourth one-fourth longer than the third. Mesonotum reddish brown. Scutellum and postscutellum yellowish. Abdomen light brownish yellow. Legs a nearly uniform light straw. Genitalia; basal clasp segment short, stout; terminal clasp segment short, greatly dilated and irregularly and obliquely truncate apically; dorsal plate broad, deeply and triangularly emarginate, the lobes broadly rounded and thickly setose; ventral plate long, broad, broadly and roundly emarginate, the lobes narrowly rounded. Harpes heavily chitinized, slender, irregularly furcate apically. A median organ, probably style, slender, heavily chitinized and apically apparently with a pair of heavy, curved clasping spurs. Type Cecid. 1480.

**Colpodia ovata** new species.

The male was taken by Mr. C. P. Alexander August 24, 1909, in a quarry at Woodworth's Lake in the Adirondacks, altitude 1,540 feet. It is related to *C. diervilleæ* Felt from which it is readily separated by color characters and the length of the basal enlargement of the flagellate antennal segments.

Male.—Length 1.75 mm. Antennæ nearly twice the length of the body, rather thickly haired, light brown; sixteen segments, the fifth with a stem nearly two and one-half times the length of the cylindrical basal enlargement, which latter has a length twice its diameter; terminal segment reduced, with a length three times its diameter and tapering gradually to an obtuse apex.

Palpi; second segment with a length about three times its diameter, the third a little longer than the second, more slender, the fourth irregular and apparently twice the length of the third. Mesonotum shining dark brown. Scutellum yellowish white, postscutellum yellowish orange. Abdomen dark yellowish brown, the margins lighter; genitalia darker. Halteres whitish transparent, slightly fuscous apically. Coxæ yellowish transparent, femora, tibiæ and basal tarsal segment dark straw, the distal half of the third, the fourth and the fifth tarsal segments yellowish white. Genitalia; basal clasp segment short, very broad, terminal clasp segment short, greatly swollen, subglobose and with a stout apical tooth; dorsal plate long, deeply and triangularly emarginate, the lobes roundly truncate; ventral plate indistinct. Harpes slender, heavily chitinized, decurved. Type Cecid. 1496.

***Colpodia porrecta*** new species.

The midge was collected August 21, 1909, by Mr. C. P. Alexander at Woodworth's Lake in the Adirondacks, altitude 1,570 feet. It is easily distinguished from other females by the unusually long stems of the flagellate antennal segments.

Female.—Length 2.75 mm. Antennæ nearly as long as the body, sparsely haired, fuscous yellowish, 13 segments, the fifth with a stem as long as the cylindric basal enlargement, which latter has a length about four times its diameter; terminal segment reduced, with a length three times its diameter, at the distal third tapering to an acute apex. Palpi; second segment with a length about three times its diameter the third one-half longer, more slender, the fourth one-half longer than the third. Mesonotum reddish brown, the submedian lines yellowish. Scutellum and postscutellum yellowish. Abdomen brownish yellow. Halteres yellowish basally, fuscous apically. Coxæ yellowish, femora, tibiæ, the first tarsal segment and the base of the second fuscous straw, the remainder of the tarsi yellowish or yellowish white. Ovipositor short, the lobes biarticulate, the terminal segment broadly oval and thickly setose. Type Cecid. 1484.

***Colpodia sylvestris*** new species.

The female described below was taken on a fern August 13, 1909, by Mr. C. P. Alexander at Woodworth's Lake in the Adirondacks, the altitude being 1,550 feet. This species is allied to *C. temeritatis* Felt, though easily distinguished by its larger size and different coloration.

Female.—Length 3 mm. Antennæ nearly as long as the body, sparsely haired, the basal three segments yellowish white, the others light brown; twelve segments, the fifth with a stem three-fourths the length of the cylindric basal enlargement, which latter has a length four times its diameter; terminal segment produced, with a length nearly six times its diameter. Palpi; first segment irregular, second with a length four times its diameter, the third as

long as the second, slightly stouter, the fourth one-half longer than the third. Thorax reddish yellow, the scutellum and abdomen mostly pale yellowish. Halteres, coxæ and posterior femora and tibiæ mostly pale yellowish; the anterior and mid-femora, tibiæ and tarsi fuscous straw, the posterior tarsi light straw. Ovipositor short, the terminal lobe narrowly oval, thickly and coarsely setose. Type Cecid. 1477.

**Didactylomyia longimana** Felt.

A single example of this striking male was first taken at Auburn-dale, Mass., August 16, 1906, by Mr. C. W. Johnson. Several specimens of both sexes were collected by Mr. C. P. Alexander in August, 1909, at Woodworth's Lake in the Adirondacks, altitude about 1,500 feet. The female had not been recognized before.

Female.—Length 1.6 mm. Antennæ extending to the sixth abdominal segment, sparsely haired, yellowish basally, the distal two-thirds fuscous; fifteen sub sessile segments, the fifth with a length fully three and one-half times its diameter, the distal segment produced, the basal enlargement with a length thrice its diameter and apically a moderately stout, fingerlike process. Palpi; the first segment subquadrate, the second with a length three and one-half times its diameter, the third shorter than the second, slender, the fourth one-half longer than the third and somewhat dilated. Thorax mostly yellowish orange. Scutellum yellowish white. Abdomen yellowish orange. Wings and halteres distinctly tinged with yellow. Coxæ yellowish, the anterior legs mostly fuscous, the posterior femora and tibiæ yellowish, the posterior tarsi nearly black; claws slender, strongly curved, unidentate, the pulvilli nearly as long as the claws. Ovipositor short, the lobes biarticulate, the terminal segment narrowly oval, coarsely setose. Described from a female captured with males. C. 1481.

**Asynapta apicalis** new species.

The male of this species was taken August 24, 1909, by Mr. C. P. Alexander in a quarry at Woodworth's Lake in the Adirondacks at an elevation of 1,540 feet. It is related to *A. furcata* Felt from which it is readily separated by the longer stems of the flagellate antennal segments and the peculiar genitalia.

Male.—Length 2.75 mm. Antennæ one-half longer than the body, thickly haired, light brown; sixteen segments, the fifth with a stem two and one-half times the length of the basal enlargement, which latter has a length one-half greater than its diameter. Palpi; first segment slender, with a length thrice its diameter, the second as long as the first, stouter, the third one-half longer than the second, more slender and the fourth one-half longer than the third, slightly capitate. Mesonotum yellowish brown. Scutellum and postscutellum fuscous yellowish. Abdomen mostly yellowish brown. Halteres and coxæ yellowish transparent. Legs a nearly uniform light straw, except the two

distal tarsal segments which are whitish. Genitalia; basal clasp segment short, stout; terminal clasp segment long, irregularly oval, the spur subapical; dorsal plate long, deeply and triangularly emarginate, the lobes broadly rounded and thickly setose; ventral plate short, deeply and narrowly emarginate, the lobes slender, tapering, narrowly rounded. Harpes heavily chitinized, irregular and reflexed. Type Cecid. 1492.

***Asynapta mediana* new species.**

This species is described from a male taken August 24, 1909, by Mr. C. P. Alexander in a quarry at Woodworth's Lake in the Adirondacks, altitude 1,540 feet. It is allied to *A. apicalis* from which it may be readily separated by the longer basal enlargement of the antennal segments and the occurrence of the spur near the basal half of the terminal clasp segment.

Male.—Length 2.5 mm. Antennæ one-fourth longer than the body, thickly haired, light brown; sixteen segments, the fifth with a stem two and one-half times the length of the basal enlargement, which latter has a length twice its diameter; terminal segment produced, with a length about four times its diameter and tapering to a slender, irregular apex. Palpi; first segment with a length about four times its diameter, the second as long as the first, stouter, the third a little longer than the second, the fourth one-half longer than the third, strongly compressed. Mesonotum reddish brown. Scutellum and post-scutellum yellowish. Abdomen fuscous yellowish. Halteres yellowish basally, fuscous apically. Coxæ and femora basally pale yellowish, basal portion of femora, tibiæ and tarsi dark straw, except the two distal tarsal segments, which latter are yellowish white; claws moderately stout, strongly curved, simple, the pulvilli rudimentary. Genitalia; basal clasp segment short, stout; terminal clasp segment long, stout, narrowly oval, the spur near the basal half; dorsal plate long, deeply and broadly emarginate, the lobes obliquely truncate and sparsely setose; ventral plate indistinct. Harpes short, stout, recurved; the ventral margin finely dentate. Type Cecid. 1495.

***Asynapta umbra* new species.**

The midge was collected by Mr. C. P. Alexander in Johnstown Cemetery, August 6, 1909. It is related to *A. flavida* Felt from which it may be easily separated by its darker color and particularly by the shorter, thicker antennal segments.

Male.—Length 1.5 mm. Antennæ nearly as long as the body, sparsely haired, dark brown; seventeen segments, the fifth with a stem one-half the length of the cylindric basal enlargement, which latter has a length only one-fourth greater than its diameter and bears a very thick whorl of long, slender hairs; terminal segment produced, with a length nearly three times its diameter and tapering slightly to a narrowly rounded apex. Palpi; first segment irregular, second broad, with a length three times its diameter, the third a



little longer and more slender than the second, the fourth as long as the third, more slender. Mesonotum shining, very dark brown. Scutellum, and post-scutellum dark yellowish brown. Abdomen sparsely haired, fuscous yellowish, the genitalia darker. Halteres whitish transparent. Coxæ and legs a somewhat variable whitish yellow; claws stout, evenly curved, unidentate, the pulvilli as long as the claws. Genitalia; basal clasp segment short, stout; terminal clasp segment very short, greatly swollen, irregularly oval; dorsal plate long, deeply and triangularly emarginate, the lobes broadly rounded; ventral plate shorter, triangularly emarginate, the lobes obliquely truncate. Harpes slender, chitinized, recurved. Type Cecid. 1499.

*Porricondyla setosa* new species.

This midge was taken August 21, 1909, by Mr. C. P. Alexander in a bog swamp at Woodworth's Lake in the Adirondacks, altitude 1,570 feet. It is related to *P. caudata* Felt from which it is readily separated by color characters and especially by the shape of the terminal lobe of the ovipositor.

Female.—Length 1.75 mm. Antennæ nearly as long as the body, thickly haired, light brown; thirteen segments, the fifth with a stem one-fourth the length of the cylindric basal enlargement, which latter has a length about four times its diameter; terminal segment reduced, slender, fusiform, with a length about three times its diameter. Palpi; first segment with a length four times its diameter, the second a little stouter, the third a little longer and more slender than the second, the fourth one-half longer and more slender than the third. Mesonotum shining brownish black. Scutellum and postscutellum fuscous yellowish. Abdomen rather thickly haired, dark brown. Halteres yellowish basally, fuscous apically. Coxæ yellowish, femora, tibiæ and tarsi fuscous straw, the fourth and the basal portion of the fifth tarsal segments white. Ovipositor short, the terminal lobes lanceolate and thickly setose. Type Cecid. 1487.

*Janetiella parma* new species.

This yellowish midge was taken by Mr. C. P. Alexander. August 21, 1909, in a bog swamp at Woodworth's Lake in the Adirondacks, altitude 1,570 ft. It is easily separated from allied forms by the greatly produced antennal segments.

Male.—Length 1 mm. Antennæ probably twice the length of the body, light brown, presumably sixteen segments; the fifth with a stem twice the length of the cylindric basal enlargement, which latter has a length three-fourths greater than its diameter. Palpi; first segment irregular, with a length three times its diameter, the second as long as the first, stouter, the third one-half longer than the second, slender, the fourth one-half longer than the third. Mesonotum reddish brown, the submedian lines yellowish orange. Scutellum, postscutellum and basal abdominal segments yellowish or yellowish orange,



the distal abdominal segments rather thickly haired, yellowish brown, the genitalia nearly fuscous. Halteres whitish basally, fuscous apically. Coxæ and the base of femora yellowish, the distal portion of femora, tibiæ and tarsi dark straw; claws slender, strongly curved, simple, the pulvilli half as long as the claws. Genitalia, basal clasp segment long, slender; terminal clasp segment long, slender, tapering; dorsal plate shell-like, broad, broadly and roundly emarginate, the emargination thickly setose; style long, slender, narrowly rounded apically; other structures obscure. Type Cecid 1488.

**Toxomyia americana** new species.

This species is described from a small midge collected collected by Mr. C. P. Alexander, August 21, 1909, in a bog swamp at Woodworth's Lake in the Adirondacks, altitude 1,570 feet. It is easily separated from the two known West Indian species recorded as living upon fungi, by the longer basal portion of the stem of the fifth antennal segment of the male and its darker color.

Male.—Length 1 mm. Antennæ nearly twice the length of the body, thickly haired, light brown; fourteen segments, the fifth having the stems with a length three and four and a half times their diameters, respectively; terminal segment produced, the basal portion of the stem with a length fully six times its diameter, the distal enlargement produced, irregular and with a long, stout, tapering process apically. Palpi; first segment short, irregular, the second with a length four times its diameter, the third a little longer than the second, more slender, the fourth one-fourth longer than the third, dilated. Mesonotum a variable reddish brown. Scutellum and postscutellum yellowish. Abdomen thickly haired, fuscous yellowish. Halteres, coxæ and femora mostly fuscous yellowish, the tibiæ and anterior and mid tarsi fuscous straw, the posterior tarsi lighter. Claws slender, strongly curved, the anterior unidentate, the pulvilli about half the length of the claws. Genitalia; basal clasp segment stout, with a longitudinal setose ridge near the middle; terminal clasp segment moderately long, stout; dorsal plate narrowly and uniformly emarginate, the lobes narrowly rounded, setose; ventral plate indistinct. Type Cecid. 1485.

**Bremia borealis** new species.

The midge was taken by Mr. C. P. Alexander, August 24, 1909, in a quarry at Woodworth's Lake in the Adirondacks, altitude 1,540 feet. It is easily distinguished from other species referable to this genus by the longer distal enlargement of the fifth antennal segment and the distinct subapical swelling of the terminal clasp segment.

Male.—Length 1.3 mm. Antennæ twice the length of the body, thickly haired, light brown; fourteen segments, the fifth with the stems one and one-half and three and one-half times their diameters, respectively, the distal enlargement with a length one-half greater than its diameter. Palpi; first segment subquadrate, the second irregular, with a length five times its diameter,

the third a little shorter than the second, the fourth one-half longer than the third. Mesonotum reddish brown. Scutellum and postscutellum yellowish brown. Abdomen thickly haired, dark yellowish brown. Halteres and coxæ pale yellowish, femora basally, the distal portion of femora, tibiæ and tarsi dark straw; claws strongly curved, the anterior unidentate, the pulvilli rudimentary. Genitalia; basal clasp segment stout, the terminal clasp segment long, swollen subapically; dorsal plate broad, very broadly and roundly emarginate; ventral plate long, slender, narrowly rounded. Type Cecid. 1497.

**Bremia tristis** new species.

This species is described from a male taken by Mr. C. P. Alexander, August 10, 1909, in a stone quarry at Woodworth's Lake in the Adirondacks, altitude 1,500 feet. It is allied to *B. podophyllæ* Felt from which it is most readily separated by the broadly and roundly emarginate dorsal plate.

Male.—Length 1.2 mm. Antennæ twice the length of the body, sparsely haired, light brown; fourteen segments, the fifth having the stems with a length three and four and a half times their diameters, respectively; terminal segment greatly produced, the basal portion of the stem with a length seven times its diameter, the distal enlargement irregular, narrowly pyriform and apically with a fingerlike process having a length six times its diameter. Palpi; first segment subquadrate, the second with a length three times its diameter, the third one-half longer, more slender, the fourth one-half longer than the third, more slender. Mesonotum reddish brown, the submedian lines, scutellum and postscutellum yellowish. Abdomen thickly haired, yellowish brown, darker apically. Genitalia yellowish. Halteres fuscous yellowish, fuscous apically. Coxæ and femora basally yellowish white, the distal portion of femora light brown; tibiæ and tarsi mostly dark brown; claws moderately stout, strongly curved, the anterior unidentate, pulvilli rudimentary. Genitalia; basal clasp segment stout; terminal clasp segment long, tapering uniformly; dorsal plate short, broad, very broadly and roundly emarginate, the lateral margins obliquely truncate; ventral plate indistinct. Type Cecid. 1475.

**Bremia montana** new species.

This midge was taken by Mr. C. P. Alexander, July 21, 1909, on *Impatiens* at Mountain Lake in the Adirondacks, altitude 1,590 feet. It is easily distinguished from other species of *Bremia* having the stems of the fifth antennal segment unequal, by the length of the basal portion.

Male.—Length 1.5 mm. Antennæ probably one-half longer than the body, thickly haired, dark brown; fourteen segments, the fifth having the stems with a length two and one-half and three and one-half times their diameters, respectively. Palpi; the first segment quadrate, with a length about twice its diameter, the second a little longer, stouter, the third a little longer than the

second, more slender and the fourth slightly longer than the third. Mesonotum reddish brown, the submedian lines thickly haired. Scutellum and postscutellum pale yellowish. Abdomen mostly yellowish brown, the second and third segments fuscous; pleuræ yellowish. Halteres yellowish basally, fuscous apically. Coxæ and femora basally yellowish, the distal portion of femora and tibiæ fuscous yellowish, the tarsi mostly fuscous. Genitalia; basal clasp segment moderately stout; terminal clasp segment long; dorsal plate deeply and triangularly emarginate, the lobes broadly and irregularly rounded; ventral plate long, broad, slightly dilated and broadly rounded apically. Type Cecid. 1336.

**Thomasia californica** new species.

The female described and tentatively referred to this genus, was reared August 27, 1913, from galls on *Symphoricarpos* collected by Prof. E. Bethel at Lake Tahoe, California, the last of July. This is the first American representative of the genus to be found.

Gall.—Length 1.5 cm., width 1 cm. This deformity consists of irregularly thickened, partly unfolded opposite leaflets, the swelling being confined mostly to the basal half of the midrib. The upper leaflets are usually affected and the central shoot arrested or destroyed as a result of the infestation.

Female.—Length 2.5 mm. Antennæ extending to the third abdominal segment, sparsely haired, fuscous yellowish; fourteen segments, the fifth with a short stem, scarcely one-fifth the length of the cylindrical basal enlargement, which latter has a length two and one-half times its diameter; terminal segment slightly produced and tapering shortly to an obtuse apex. Palpi; first segment irregular, subquadrate, the second with a length fully three times its diameter, the third one-half longer than the second, more slender, the fourth as long as the third, somewhat dilated. Mesonotum yellowish brown. Scutellum and postscutellum yellowish. Abdomen yellowish salmon. Wings hyaline, the third vein uniting with costa just before the apex of the wing. Halteres, coxæ and femora pale yellowish; tibiæ and tarsi light straw; claws rather slender, strongly curved, unidentate, the pulvilli about half the length of the claws. Ovipositor as long as the body, the lobes narrowly oval and with a few coarse setæ. Type Cecid. 22438.

**Karschomyia viburni** Felt.

The striking male of this species, easily recognized by the trinodose antennae and the enlarged and peculiar genitalia, was taken in Washington Park, Albany, N. Y., June 1, 1906. Specimens have subsequently been received through Mr. Owen Bryant from Greylock Mountain, Mass., and also from Mr. C. P. Alexander who captured specimens of both sexes in August, 1909, in a bog swamp at Woodworth's Lake in the Adirondacks, altitude about 1,570 feet. Through his efforts we have been able to associate the female with the opposite sex.